



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Theresa A. Hadlock et al.  
Serial No. : 09/774,397  
Filed : January 31, 2001  
Title : NEURAL REGENERATION CONDUIT

Art Unit : 3731  
Examiner : G. Jackson

Commissioner for Patents  
Washington, D.C. 20231

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RESPONSE

In response to the action mailed October 25, 2002, please amend the application as follows:

In the specification:

Please replace the paragraph beginning at page 10, line 12, with the following rewritten paragraph:

--Some embodiments of the invention include a polymer hydrogel layer 22 adhered to the support 12 or to a layer of cells 26 adhered to the support 12. The polymer hydrogel layer 22 can be any biocompatible, bioresorbable polymer gel that provides an aqueous milieu for cell migration and neurotrophic agent diffusion. The hydrogel can be natural or synthetic. The hydrogel layer 22 can have a thickness from 5 to 120  $\mu\text{m}$ , preferably from 10 to 50  $\mu\text{m}$ , e.g., approximately 20, 25 or 30  $\mu\text{m}$ . Optimal hydrogel thickness depends on factors such as the diameter of the nerve being repaired and the number and diameter of microspheres 24 (if any) to be accommodated in the hydrogel layer 22. Exemplary materials for use in a polymer hydrogel layer 22 are fibrin glues, PLURONICS<sup>®</sup> hydrogels, polyethylene glycol (PEG) hydrogels, agarose gels, PolyHEMA (poly 2-hydroxyethylmethacrylate) hydrogels, PHPMA (poly N-(2-hydroxypropyl) methacrylamide) hydrogels, collagen gels, MATRIGEL<sup>®</sup> hydrogels, chitosan gels, gel mixtures (e.g., of collagen, laminin, fibronectin), alginate gels, and collagen-

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March 19, 2003

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